USET TRIBAL PEER REVIEW EVALUATION

Address:_____
_____
_____

Contact Name:_____

Southern or Northern District:_____
Water System Name:_____
Reviewer Name:_____
Date:_____
Tribe/Nation:_____

Operator Name:_____

Phone #:_____

Well Water Sources I

1. Are all permits posted or on file at the treatment facility or water system office?
   Q Yes **Q** No

2. Is adequate wellhead protection being implemented?
   Q Yes **Q** No

3. Is the well:
   Q Yes **Q** No More than 50 feet from a septic tank?
   Q Yes **Q** No More than 100 feet from a septic tank absorption field?
   Q Yes **Q** No More than 10 feet from a sewer?
   Q Yes **Q** No More than 1,000 feet from a solid waste disposal site?
   Q Yes **Q** No Near any open, abandoned wells?
   Q Yes **Q** No Protected from other sources of possible contamination?
   Q Yes **Q** No Withdrawing more than 10,000gpd?

4. Is the well site subject to flooding?
   Q Yes **Q** No

5. Is the well site properly graded to channel water away from the well?
   Q Yes **Q** No

6. Are there other wells in the zone of influence?

   Q Yes **Q** No

7. Are there any unprotected direct openings into the well or surrounding the well?
   Q Yes **Q** No

8. Are there adequate well seals?
   Q Yes **Q** No

9. Were wells drilled by a certified well driller?
   Q Yes **Q** No

10. What is the depth of the casing? _____feet

11. What is the depth of grouting? _____feet

12. Does the well have a suitable raw water sampling cock (For example: smooth nosed, turned down and no threads) before or after the check valve? **Q** Yes **Q** No

13. Is a drawdown gauge available, in good repair and used properly?
    Q Yes **Q** No

14. Are foot/check valves accessible for cleaning?
    Q Yes **Q** No

15. Does the pumphouse interior:
    Q Yes **Q** No Appear well maintained?
    Q Yes **Q** No Have ponding of water on the floor?
    Q Yes **Q** No Have floor drains that lead to a dry well to a sewer or septic tank?
    Q Yes **Q** No Are there cracks in the floor?

16. Are the site buildings properly maintained and adequately protected from vandals?
    Q Yes **Q** No

WELL WATER SOURCES I

Water System Name:_____
Operator Name:_____
Reviewer Name:_____
Date: _____

17. Is the air/vacuum relief valve properly installed and screened ?
Q Yes **Q** No

18. Are check valves, blowoff valves, and water meters maintained and operating properly?
Q Yes **Q** No

19. Is well discharge piping properly equipped from well to distribution? (Check all that apply)
Q Check Valve **Q** Pressure Gauge **Q** Flow Measuring Device **Q** Shutoff Valve

20. Are pumps and motors adequately protected?

(Check all that apply)
Q Lighting **Q** Single Phase
Q Low Suction **Q** Other _____

21. Are all chemicals, lubricants, and fuels properly stored segregating incompatible chemicals?
Q Yes **Q** No

22. Is adequate spill protection and containment in place around chemical and fuel storage tanks?
Q Yes **Q** No

23. Are there provisions for emergency chlorination? **Q** Yes **Q** No

24. Does the Tribe/Nation have an approved Water Supply? **Q** Yes **Q** No

Recommendations:

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer Name:_____
Date:_____

1. Attach a sketch of the treatment train and indicate where chemicals are added.

2. Are as-built drawings of the plant available?
Q Yes **Q** No

3. Are flows within design specification?
Q Yes **Q** No

4. Do there appear to be design flaws with the system?
Q Yes (explain) **Q** No

5. Are additional processes or equipment needed?
Q Yes (explain) **Q** No

Chemical-General

6. What pretreatment chemicals and processes are used to deal with water quality challenges? (Check all that apply)
Q potassium permanganate **Q** lime
Q sodium hydroxide **Q** copper sulfate
Q sodium carbonate **Q** activated carbon
Q sodium bicarbonate **Q** chlorine
Q aeration **Q** other

7. Are chemical application points optimally placed so they do not cancel or conflict with each other? (For example: chlorine and activated carbon)
Q Yes **Q** No

8. Are chemicals properly stored?
Q Yes **Q** No

9. Are chemical dosages calculated properly?

Q Yes **Q** No

10. Is the water supply line to the chemical feed system properly safeguarded?
Q Yes **Q** No

11. Is chemical feed equipment properly maintained, calibrated, and in good operating condition?
Q Yes **Q** No (explain)

12. Are there sufficient alternative processes, spare parts, and backup equipment?

Q Yes **Q** No (explain)

13. Do the daily logs accurately record all chemicals added to the water?

Q Yes **Q** No

14. Does the plant have an on-site chemical Quality Assurance/Quality Control program?

Q Yes **Q** No

15. What process control testing is done to determine effectiveness of treatment? (Check all that apply)
Q jar testing **Q** turbidity
Q stream current detectors **Q** alkalinity
Q hardness **Q** chlorine residual
Q temperature **Q** pH
Q other_____ **Q** other_____

16. Are safe practices followed during chemical handling and mixing?

Q Yes **Q** No

17. Are there adequate spill containment provisions?

Q Yes **Q** No Explain:_____
_____

_____

_____

18. Is appropriate safety equipment available and in use? (For example: self-contained breathing apparatus, goggles, gloved, eye wash, etc.)
Q Yes **Q** No

19. Have operators been trained to use the safety equipment?

Q Yes **Q** No

20. Are the appropriate lighting, guards and railing, etc. in place?

Q Yes **Q** No

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

21. Are there other safety concerns such as electrical hazards? **Q** Yes **Q** No

22. Can the operator answer basic questions about the treatment process, including what is done, as well as when and why things are done?
Q Yes **Q** No

23. Is operator training needed on any aspect of operation and maintenance?
Q Yes **Q** No

24. Have there been any interruptions in disinfection?
Yes (explain) **Q** No
_____ ___
_____
_____

25. Is there at least a 0.2 mg/l disinfectant residual throughout the distribution system at all times?

Q Yes **Q** No

26. What disinfectant residual is maintained at the plant tap? _____

27. Is there sufficient contact time between the disinfectant point and the first point of use?
Q Yes **Q** No

28. What are the contact time values for the plant?(1cq) _____

Hypochlorite

29. Is hypochlorite used for disinfection?
Q Yes What type_____
Q No (Go to question 49)

30. Where are the application points for hypochlorite? (Check all that apply)
Q Intake **Q** Flash Mix **Q** Flocculation Basin **Q** Top of Filters **Q** Sedimentation Basin **Q** Clearwell **Q** Other_____

31. Do daily operating records reflect hypochlorite dosages, chlorine residuals, etc.?
Q Yes **Q** No

32. Is the hypochlorite feed pump rate in proportion to the rate of flow through the plant?

Q Yes **Q** No

33. Is the mixing during chlorination adequate?
Q Yes **Q** No

34. When was the latest calibration of the chemical feed equipment?_____

35. Is there an alarm tied to interruptions in hypochlorite feed?
Q Yes **Q** No

36. Are instrumentation and automatic and manual controls for the process
Adequate? **Q** Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized? **Q** Yes **Q** No

37. Are there sufficient
Backup equipment? **Q** Yes **Q** No
Alternate processes? **Q** Yes **Q** No
Spare parts? **Q** Yes **Q** No

38. What is the condition of the:
Chemical Feed equipment?
Q Poor **Q** Fair **Q** Good **Q** Excellent
Back up equipment?
Q Poor **Q** Fair **Q** Good **Q** Excellent
Spare parts?
Q Poor **Q** Fair **Q** Good **Q** Excellent
Day tanks?
Q Poor **Q** Fair **Q** Good **Q** Excellent

39. How often are the pumps and injection lines cleaned? _____

40. Is the solution tank covered to minimize corrosive vapors?
Q Yes **Q** No

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

41. Are safe practices followed during chemical handling and mixing?
Q Yes **Q** No

42. Is appropriate safety equipment available and in use? (For example: self-contained breathing apparatus, goggles , gloves, eyewash, etc.)
Q Yes **Q** No

43. Are the appropriate lighting, guards and railings etc., in place?
Q Yes **Q** No

44. Are there other safety concerns such as electrical

hazards?
Q Yes **Q** No

45. Are there adequate spill containment provisions?
Q Yes **Q** No

46. Are there any cross connections between the chemical feed makeup Water and injection points?
Q Yes **Q** No

47. Are there any cross connections in the piping that provides split feed to both raw and finished water?
Q Yes **Q** No

48. Can the operator answer basic questions about the treatment process, including what is done, as well as when and why things are done?
Q Yes **Q** No

Chlorine Gas

49. Is chlorine gas being used
Q Yes **Q** No (Go to question 88)

50. Where are the injection points for chlorine? (Check all that apply)
Q Intake **Q** Flash Mix
Q Flocculation Basin **Q** Top of Filters
Q Plant Pond **Q** Post Mixer
Q Sedimentation Basin **Q** Clearwell
Q Other

51. What is the average daily chlorine usage (in pounds)?_____

52. Do daily operating records reflect dosages, chlorine residual, etc.? **Q** Yes **Q** No

53. Is the chlorine feed rate in proportion to the water flow rate?
Q Yes **Q** No

54. Is there an alarm tied to interruption in the chlorine feed?
Q Yes **Q** No

55. If more than one cylinder is used, are they manifolded with an automatic switch over to prevent running out of chlorine?
Q Yes **Q** No

56. Are the cylinders on a working scale?
Q Yes **Q** No

57. Are cylinder-mounted vacuum regulators used instead of pressurized metal feed lines?
Q Yes **Q** No

58. Are the cylinders in use open a “quarter-turn” with a wrench in place for quick turnoff?
Q Yes **Q** No

59. Is the water supply to the chlorinator adequate?
Q Yes **Q** No

60. Are there any potential cross connections between the chlorine feed makeup water and injection points?
Q Yes **Q** No

61. Are there any potential cross connections in the piping that provides split feed to both raw and finished water?
Q Yes **Q** No

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

62. Is there at least a 30-day supply of chlorine on hand?
Q Yes **Q** No

63. Is chlorine and other oxidizers properly stored and segregated from incompatible chemicals?

Q Yes **Q** No

64. Are the cylinders restrained to prevent falling?

Q Yes **Q** No

Are they marked to indicate empty or full?
Q Yes **Q** No

65. Are there means for chlorine leak detection?
Q Yes **Q** No

66. If automatic detectors are being used:
Date of last test?_____
What is the detection level?_____
Is sensor tube screened? **Q** Yes **Q** No

67. Are there adequate leak containment provisions?

Q Yes **Q** No

68. Are safe practices followed during cylinder changes?
Q Yes **Q** No

69. How many individuals are present when cylinders are changed?_____

70. Is the chlorination room separate from the office and the rest of the treatment facility?
Q Yes **Q** No

71. Does the chlorination room have adequate ventilation at floor and inlet air supply from across the room at ceiling level?
Q Yes **Q** No

72. Is the vent switch located outside and by the door?
Q Yes **Q** No

73. Is temperature being monitored in the chlorine feed room?
Q Yes **Q** No

74. Does the door to the chlorine room:
Q Open outward? **Q** Yes **Q** No
Q Have a panic bar? **Q** Yes **Q** No
Q Have a window? **Q** Yes **Q** No
Q Have proper labeling? **Q** Yes **Q** No

75. Is there a chlorine cylinder repair kit on site?
Q Yes If "yes" where is it stored?_____
Q No

76. Is there a chlorine emergency response plan?

Q Yes Date of last practice_____
Q No

77. Is appropriate safety equipment available and in use? (For example: self-contained breathing apparatus, goggles , gloves, eyewash, etc.)

Q Yes **Q** No

78. Are self-contained breathing apparatus readily available and stored outside of the chlorine room?
Q Yes **Q** No

79. Do all personnel receive training in the use of self-contained breathing apparatus and participate in periodic practice?
Q Yes Date of last practice_____
Q No

80. If chlorine cylinders are transported on site by water system personnel, are requirements of 49 CFR Parts 171 and 172 being adhered to?
Q Yes **Q** No

RMP in place? **Q** Yes **Q** No

81. Are instrumentation and automatic and manual controls for the chlorination process: Adequate?
Q Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized **Q** Yes **Q** No

82. Is there sufficient:
Backup equipment? **Q** Yes **Q** No
Alternate processes? **Q** Yes **Q** No
Spare parts? **Q** Yes **Q** No

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

83. What is the condition of the:
Chlorine feed equipment?
Q Poor **Q** Fair **Q** Good **Q** Excellent
Backup equipment?
Q Poor **Q** Fair **Q** Good **Q** Excellent
Spare Parts?
Q Poor **Q** Fair **Q** Good **Q** Excellent

84. Is there a drain in the chlorine room?
Q Yes **Q** No
If there is a drain is it plumbed properly?
Q Yes **Q** No

85. Are the appropriate lighting, guards and rails, etc. in place?
Q Yes **Q** No

86. Are there other safety concerns such as electrical hazards?
Q Yes **Q** No

87. Can the operator answer basic questions about the chlorine treatment process, including when and why it is done? **Q** Yes **Q** No

Ultraviolet Treatment

88. Is an ultraviolet (UV) unit being used?
Q Yes **Q** No (Go to question 101)

89. Is there an operation and maintenance manual and standard operating procedures for the UV unit? **Q** Yes **Q** No

90. Are flows and turbidity levels within the design specifications of the UV unit?
Q Yes **Q** No

91. Are instrumentation and automatic and manual controls for the process:
Adequate? **Q** Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized? **Q** Yes **Q** No

92. Is there adequate turbulence and mixing to avoid short circuiting and to ensure good exposure?

Q Yes **Q** No

93. What is the condition of:
UV unit **Q** Good **Q** Fair **Q** Poor
Backup units **Q** Good **Q** Fair **Q** Poor
Spare parts **Q** Good **Q** Fair **Q** Poor

94. Are UV units inspected and cleaned periodically?
Q Yes Last service date_____
Q No

95. What is the frequency for inspection and cleaning?_____

96. Is adequate process control testing being done to determine the effectiveness of the UV unit?
Q Yes **Q** No

97. Are the appropriate lighting, guards and railings etc., in place?
Q Yes **Q** No

98. Are there other safety concerns such as electrical hazards?
Q Yes **Q** No

99. Are safe practices followed during operation and maintenance of the UV unit?
Q Yes **Q** No

100. Can the operator answer basic questions about the treatment process, including what is done, as well as when and why things are done?
Q Yes **Q** No

Ozone Treatment

101. Is an ozone unit being used?
Q Yes **Q** No (Go to question 115)

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

102. What type of ozone contractor is being used?

Q Two-level diffuser
Q Multistage porous diffuser
Q Eductor system
Q Turbine
Q Pack bed
Q Other_____

103. Is there an operation and maintenance manual and standard operating procedures for the ozone unit?
Q Yes **Q** No

104. Are the temperature and pressure of the water being treated within designed specifications?
Q Yes **Q** No

105. Is the mixing during ozonation adequate?
Q Yes **Q** No

106. Where is the ozone injected? (Check all that apply)
Q Intake **Q** Flash Mix
Q Flocculation Basin **Q** Top of Filters
Q Sedimentation Basin **Q** Clearwell
Q Other

107. Are instrumentation and automatic and manual controls for the process
Adequate? **Q** Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized? **Q** Yes **Q** No

108. What is the condition of:
Air dryer equipment **Q** Good **Q** Fair **Q** Poor
Dewpoint monitoring **Q** Good **Q** Fair **Q** Poor
Ozone generator **Q** Good **Q** Fair **Q** Poor
Contractor **Q** Good **Q** Fair **Q** Poor
Backup equipment **Q** Good **Q** Fair **Q** Poor
Spare parts **Q** Good **Q** Fair **Q** Poor

109. How often are ozone units cleaned?_____

110. Is adequate process control testing being done to determine the effectiveness of the ozone unit?
Q Yes **Q** No

111. Are safe practices followed during operation and maintenance?
Q Yes **Q** No

112. Are the appropriate lighting, guards and railing, etc. in place? **Q** Yes **Q** No

113. Are there other safety concerns such as electrical hazards?
Q Yes **Q** No

114. Can the operator answer basic questions about the treatment process, including what is done, as well as when and why things are done?
Q Yes **Q** No

Iron and Manganese

115. Is iron and manganese removal being performed?
Q Yes **Q** No

116. What are the normal and peak concentrations of iron and manganese in the raw water?
Iron: Normal_____ Peak_____
Manganese: Normal_____ Peak_____

117. What treatment process is used to control iron and manganese?_____
_____
_____

118. What chemicals are applied?_____
_____
_____

119. Where are iron and manganese control chemicals applied? (Check all that apply)
Q Intake **Q** Flash Mix
Q Flocculation Basin **Q** Top of Filters

Q Sedimentation Basin **Q** Clearwell

Q Plant Pond
Q Other _____

120. What are the normal and maximum feed rates?

Normal_____ Maximum_____

WATER TREATMENT II

Water System Name:_____
Operator Name:_____
Reviewer:_____
Date:_____

121. Is the mixing during chemical addition adequate?
Q Yes **Q** No

122. Do daily operating records reflect dosages, chemical use, etc.?
Q Yes **Q** No

123. Are instrumentation and automatic and manual controls for the process
Adequate? **Q** Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized? **Q** Yes **Q** No

124. Are there sufficient
Backup equipment? **Q** Yes **Q** No
Alternate processes? **Q** Yes **Q** No
Spare parts? **Q** Yes **Q** No

125. Is appropriate safety equipment available and in use? (For example: goggles , gloves, etc.)
Q Yes **Q** No

126. Have operators been trained to use the safety equipment? **Q** Yes **Q** No

Has training been documented?
Q Yes **Q** No

127. Are the appropriate lighting, guards and railings etc., in place?
Q Yes **Q** No

128. Are there other safety concerns such as electrical hazards?
Q Yes **Q** No

129. Is there an accurate line drawing of the treatment process?
Q Yes **Q** No

130. Do the following processes appear adequate?
Rapid Mix **Q** Yes **Q** No
Flocculation **Q** Yes **Q** No
Sedimentation **Q** Yes **Q** No

131. Does there appear to be excessive short circuiting in the flocculation/sedimentation process?
Q Yes **Q** No

132. Is there excessive floc carryover from the sedimentation process to the filter units?
Q Yes **Q** No

133. Is sludge removal from the basins adequate? **Q** Yes **Q** No

134. Is there a suitable sludge plan? **Q** Yes **Q** No

135. Is the NTU on top of the filter units 2 NTU or less?
Q Yes **Q** No

136. Is adequate filtration being achieved?
Q Yes **Q** No

137. Are instrumentation and automatic and manual controls for the filtration process
Adequate? **Q** Yes **Q** No
Operational? **Q** Yes **Q** No
Utilized? **Q** Yes **Q** No

138. Is there filter to waste capability?
Q Yes **Q** No

139. Are there individual sampling points for each filter?
Q Yes **Q** No

140. Is adequate filter backwash being achieved?
Q Yes **Q** No

141. Are proper procedures for filter backwash being followed according to Standard Operating Procedures (SOP)?
Q Yes **Q** No

142. Is backwash water being monitored and Disposed of according to regulations?
Q Yes **Q** No

WATER TREATMENT II

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

143. Is corrosion control necessary?
Q Yes **Q** No

144. If a corrosion control is being used, is the program adequate?
Q Yes **Q** No

145. Are SOP Manuals available?
Q Yes **Q** No

146. Are MSDS available?
Q Yes **Q** No

Recommendations:

_____

_____

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DISTRIBUTION

Water System Name:_____

Operator Name:_____

Reviewer:_____

Date:_____

1. Are as-built maps of the system located in a readily available location?

Q Yes **Q** No

2. Where are the maps located?_____

3. Are maps updated periodically?
Q Yes **Q** No

4. Are additional maps readily available for use by system personnel?
Q Yes **Q** No

5. Is there a hydraulic model of the system?
Q Yes **Q** No

6. Is the system interconnected with any other water system?
Q Yes **Q** No

7. Are the lines in the system looped?
Q Yes **Q** No

8. Does the distribution system have dead-ends?
Q Yes **Q** No

9. Are there areas of the distribution system that have abnormally low flows?
Q Yes **Q** No

10. Is the utility monitoring disinfection residuals throughout the distribution system?
Q Yes **Q** No
Is there at least a 0.2 mg/l disinfectant residual throughout the distribution system at all times?
Q Yes **Q** No

11. Are proper disinfection procedures used:
In new construction? **Q** Yes **Q** No
After repairs? **Q** Yes **Q** No

12. Is there a scheduled maintenance program?
Q Yes **Q** No

13. Is there a pressure monitoring program?
Q Yes **Q** No

14. Is there an adequate flushing program?
Q Yes **Q** No
Times/yr _____

15. Are there sufficient values to isolate lines? **Q** Yes **Q** No

16. Is there a value maintenance program? **Q** Yes **Q** No

17. Is there a corrosion monitoring program? **Q** Yes **Q** No

18. What types of pipe and material are present in the distribution system?
_____
_____
_____

19. Are the distribution system pipe and material ANSI/NSF certified?
Q Yes **Q** No

20. Does the system use:
Altitude valves? **Q** Yes **Q** No
Pressure reducing valves? **Q** Yes **Q** No
Other control valves? **Q** Yes **Q** No

21. Are all control valves functioning properly?
Q Yes **Q** No

22. Are control valves equipped with input and output pressure gauges?
Q Yes **Q** No

23. What is the frequency of main breaks?
_____

24. Are there adequate repair materials on hand?
Q Yes **Q** No

25. If repair materials are not on hand, how quickly can they be obtained?_____

26. Does the system have a leak detection program?

Q Yes **Q** No

27. Does the system have an adequate safety policy?

Q Yes **Q** No

DISTRIBUTION

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

28. Are safety practices followed during distribution system operation and repairs?
Q Yes **Q** No

29. Does the system have a backflow prevention program?
Q Yes **Q** No

30. Have all service connections been prioritized according to health hazard?
Q Yes **Q** No

31. Is the utility requiring protection on service connections with health hazards?
Q Yes **Q** No

32. Have backflow prevention devices been installed at appropriate locations such as wastewater plants, hospitals, industrial locations, etc.?

Q Yes **Q** No

33. Have any of the following backflow prevention assemblies been installed ?
Air gaps? **Q** Yes **Q** No
Vacuum breaker? **Q** Yes **Q** No
Double check valves? **Q** Yes **Q** No
Reduced pressure devices **Q** Yes **Q** No
Other_____ **Q** Yes **Q** No

34. Is there a program to annually inspect and test the backflow prevention assemblies?
Q Yes **Q** No

35. Have the following been established between the water utility and the local fire departments?

Policy and procedure for notifying the fire department when hydrant is out of service?
Q Yes **Q** No

Procedure for notifying the utility when the fire department uses a hydrant?
Q Yes **Q** No

Role of the fire department in the inspection and flushing of hydrants?
Q Yes **Q** No

Role of the fire department in the determination of types and locations of new hydrants?
Q Yes **Q** No
Policy for fire department to report water usage to the utility?
Q Yes **Q** No

36. What is the unaccounted for water percentage?
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FINISHED WATER STORAGE IV

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

1. If the tank is a hydropneumatic type what is the:

   Cut in pressure _____
   Cut out pressure _____
   Air to water ratio _____

2. Are instruments and controls adequate and operational?
   Q Yes **Q** No

3. Are instruments and controls utilized and maintained?
   Q Yes **Q** No

4. Are instruments and controls locked and properly protected?
   Q Yes **Q** No

5. Does low pressure level provide adequate distribution pressure?
   Q Yes **Q** No

6. Are backup systems provided?
   Q Yes **Q** No

7. Is there a bypass so the tank can be taken out of service?
   Q Yes **Q** No

8. Has professional inspection been performed to determine interior and exterior surface conditions and structural integrity of the tank?

   Q Yes **Q** No
   Date of inspection:_____

9. Are interior coatings ANSI/NSF 61 approved?
   Q Yes **Q** No

10. Is the storage system designed for "direct pumping" into the distribution system?
    Q Yes **Q** No

11. Is the storage system designed to "float" on the distribution system?
    Q Yes **Q** No

12. Is the tank managed to provide turnover to prevent stale water?
    Q Yes **Q** No

13. Are overflow lines, air vents, drainage lines, or clean out pipes:
    Turned down and covered? **Q** Yes **Q** No
    Screened? **Q** Yes **Q** No
    Terminated a minimum of three pipe diameters above the ground or storage tank surface?
    Q Yes **Q** No

14. Is the drain from the tank connected to a storm water or sewer drain?
    Q Yes **Q** No
    If yes, is there an air gap? **Q** Yes **Q** No

15. Does the overflow piping extend a minimum of ten feet downgrade from the foundation of the tank?
    Q Yes **Q** No

16. Does surface runoff and underground drainage flow away from the storage structure?
    Q Yes **Q** No

17. Is the tank site protected against:
    Flooding? **Q** Yes **Q** No
    Icing? **Q** Yes **Q** No
    Vandalism? **Q** Yes **Q** No

18. Are the tank hatches locked and properly protected?
    Q Yes **Q** No

19. Are tanks equipped with cathodic protection?

    Q Yes **Q** No

20. Can the tank be isolated from the distribution

system? **Q** Yes **Q** No

21. Are there provisions for maintaining the water supply when the storage tank is out of service for maintenance or emergency situations?

    Q Yes **Q** No

22. Are storage tanks disinfested in accordance to regulations following interior maintenance?
    Q Yes **Q** No

FINISHED WATER STORAGE IV

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

23. Is there a tap that can give a representative sample from the tank?
    Q Yes **Q** No

24. Are bacteriological samples collected and analyzed following tank maintenance?
    Q Yes **Q** No

25. Are safety precautions being followed during routine tank operation and maintenance?
    Q Yes **Q** No

26. Are safety climbing devices installed on the tank?
    Q Yes **Q** No

27. If the tank is in the vicinity of an airport or flight path are proper markings and lighting installed and maintained according to Federal Aviation Regulations?
    Q Yes **Q** No

28. Does the tank foundations appear structurally sound?
    Q Yes **Q** No

Recommendations:

DISTRIBUTION PUMPS, FACILITIES & CONTROLS

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

1. Are NSF approved lubricants used?
   Q Yes **Q** No

2. Is the appropriate amounts of lubricant used?
   Q Yes **Q** No

3. Are the following control systems reliable and protected?
   Low Suction **Q** Yes **Q** No
   Pressure **Q** Yes **Q** No
   Lightning **Q** Yes **Q** No
   Phase Protection **Q** Yes **Q** No
   Thermal **Q** Yes **Q** No
   Other_____ **Q** Yes **Q** No

4. Are emergency/backup power systems provided?

   Q Yes **Q** No

5. Are emergency/backup power systems exercised under load regularly?
   Q Yes **Q** No

6. Do rotating and electrical equipment have protective guards?
   Q Yes **Q** No

7. Are the facilities maintained properly?
   Q Yes **Q** No

8. Are the facilities properly protected and locked?

   Q Yes **Q** No

9. Are underground compartments and suction wells:
   Waterproof? **Q** Yes **Q** No
   Vented? **Q** Yes **Q** No
   Locked? **Q** Yes **Q** No

10. Are permanent mounted ladders :
    Structurally sound? **Q** Yes **Q** No
    Firmly anchored? **Q** Yes **Q** No

11. Are ladder anchor points corroding?
    Q Yes **Q** No

12. Are there any cross connections present?
    Q Yes **Q** No

13. Are there adequate records of:
    Operational data? **Q** Yes **Q** No

14. Are the rated capacities of the pumps adequate?
    Q Yes **Q** No

15. Are information tags on the pumps and motors present and readable?
    Q Yes **Q** No

16. Is the pump packing adjusted properly?
    Q Yes **Q** No

17. Are drains and/or sump pumps functional?
    Q Yes **Q** No

18. Are pumping facilities equipped with climate control devices?
    Q Yes **Q** No

19. Are equipment manuals readily available?
    Q Yes **Q** No

20. Are safety issues such as confined spaces, lockout/tagout, etc. Being addressed?
    Q Yes **Q** No

Recommendations:

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MONITORING, REPORTING & DATA VERIFICATION

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

1. Are maps maintained to identify sampling points?
   Q Yes **Q** No

2. Is there adequate monitoring in the distribution system?
   Q Yes **Q** No

3. Are the sampling points rotated?
   Q Yes **Q** No

4. Is there adequate process control monitoring for:

PH	**Q** Yes	**Q** No
Alkalinity	**Q** Yes	**Q** No
Calcium Hardness	**Q** Yes	**Q** No
Temperature	**Q** Yes	**Q** No
Chlorine Residual	**Q** Yes	**Q** No
Corrosivity	**Q** Yes	**Q** No
HPC	**Q** Yes	**Q** No
Other_____	**Q** Yes	**Q** No

5. Is the operator following proper sampling and testing procedures?
   Q Yes **Q** No

6. Are monthly operating reports (MOR's) submitted in a timely manner?
   Q Yes **Q** No

7. Are the proper number of samples being collected?
   Q Yes **Q** No

8. Is effective communication procedures being maintained between the water system and the lab?
   Q Yes **Q** No

9. What is the name of the certified lab being used?
   _____

10. Are copies of monitoring results on-site, for each rule?
    Q Lead and copper (Pb/Cu)
    Q Radionuclides (Rads)
    Q Inorganic chemicals (IOCs)
    Q Synthetic organic chemicals (SOCs)
    Q Volative organic chemicals (VOCs)
    Q Nitrate/Nitrite (NO_3/NO_2)
    Q Fluoride (Fl)
    Q Total coliform rule (TCR)
    Q Turbidity (Turb)

11. Are copies of the following on file if appropriate?
    Q Copy of Waivers
    Q Production Permits
    Q Withdrawal Permits

Recommendations:

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WATER SYSTEM MANAGEMENT & OPERATIONS VII

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

1. Does the system have a sufficient number of certified operators at all times?
Q Yes **Q** No

2. Are there sufficient facilities to store parts inventory, equipment, vehicles, traffic control devices, lawn equipment and supplies?
Q Yes **Q** No

3. Are there adequate facilities for the system personnel?
Q Yes **Q** No

4. Have personnel been adequately trained?
Q Yes **Q** No
Are there on-going training programs?
Q Yes **Q** No
o certified personnel attend training required for certification renewal?
Q Yes **Q** No

5. Does the employee turnover rate or the absentee rate appear high?
Q Yes **Q** No

6. Is there a formal organizational chart?
Q Yes **Q** No

7. What is the general procedure to obtain needed parts or maintenance?
_____
_____
_____
_____
Can the needed parts or maintenance be secured without affecting system performance?
Q Yes **Q** No

8. Are administrators familiar with plant needs?

Q Yes **Q** No

9. Are there long-range plans for:
Facility replacement **Q** Yes **Q** No
Alternative sources **Q** Yes **Q** No
Emergency response **Q** Yes **Q** No
Long range budgeting **Q** Yes **Q** No

10. Does the utility maintain a complaint log detailing the location and nature of complaints?

Q Yes **Q** No

11. Does the governing body appear to be effective in overseeing the operation and maintenance of the water system? **Q** Yes **Q** No

12. Does the utility have an active public education program? **Q** Yes **Q** No

13. Does there appear to be adequate communication between the manager (superintendent) and the governing body?
Q Yes **Q** No

14. Does there appear to be adequate communication between the manager and the workers?
Q Yes **Q** No

15. Is there cooperation between the water office and other municipal offices?
_____
_____
_____

16. When was the last accident?_____
When was the last "serious" accident causing workday loss?_____

17. Does the utility have a confined space entry program?
Q Yes **Q** No

18. Are the appropriate safety equipment and protective clothing available?
Q Yes **Q** No

19. Have the operators been adequately trained in safety procedures and equipment?
Q Yes **Q** No

Has training been documented?
Q Yes **Q** No

WATER SYSTEM MANAGEMENT & OPERATIONS VII

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

20. Has the utility compiled with the hazardous communication act as required by OSHA?
Q Yes **Q** No **Q** N/A

21. Does the water system have a written "mission statement" or "statement of purpose"?
Q Yes **Q** No

22. Does the utility have on file all documents relating to the origination or incorporation of the legal entity which is authorized to operate the system?
Q Yes **Q** No

23. Does the system have other written documents or information to provide orientation and/or training to new members of the Board on duties and responsibilities of their position?

Q Yes **Q** No

24. Do the rules and regulations governing system operation include the following provisions covering:
The water system's responsibilities to the customer?
Q Yes **Q** No
The customer's responsibility for receiving service?
Q Yes **Q** No
The connection fees and deposits required for service?
Q Yes **Q** No

25. Do the rules and regulations governing the system operations include provisions for:
The current rate schedule for each classification of customer (residential and commercial)?

Q Yes **Q** No
The procedures for handling and resolving customer complaints?
Q Yes **Q** No
The dates of monthly billings and late payment charges, if any?
Q Yes **Q** No

26. Do the rules and regulations governing system operations include provisions for:
Past due accounts, collections, and conditions for shut-off and restoration service?

Q Yes **Q** No

Prospective customers having excessive requirements for service?
Q Yes **Q** No
Conditions under which water main extensions for connecting new customers may be made?
Q Yes **Q** No

27. Do the rules and regulations governing system operations include procedures for making exceptions to the rules and provisions for amending the rules and regulations?
Q Yes **Q** No

28. Have customers been provided with rules and regulations of the system?
Q Yes **Q** No

29. Does the governing Board hold regularly scheduled publically announced meeting?
Q Yes **Q** No

30. Is there a written agenda prepared for each Board meeting?
Q Yes **Q** No

31. Are accurate minutes and records of all Board meetings and actions prepared and maintained?

Q Yes **Q** No

32. Are members of the public given time for comment at Board meetings?
Q Yes **Q** No

33. Are vacancies on the governing Board promptly and legally filled?
Q Yes **Q** No

34. Are meetings frequently canceled because of the lack of quorum?
Q Yes **Q** No

WATER SYSTEM MANAGEMENT & OPERATIONS VII

Water System Name:_____
Operator Name:_____

Reviewer:_____
Date:_____

35. Copies of approved Well Head Protection Plan? **Q** Yes **Q** No

36. Copies of approved Water Protection Plan?
Q Yes **Q** No

Recommendations: